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BOOK REVIEW

Oguz Cataltepe, George I. Gallo, Pediatric epilepsy surgery

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This book is dedicated to the surgical therapy of epilepsy in children. It is edited by two renowned experts in the field, who have assembled a significant group of authors who contributed according to their particular field of expertise. The book is divided in four major sections: I. *Preoperative Assessment*, II. *Surgical Approaches and Techniques*, III. *Outcome*, and IV. *Recent advances*. A total of 41 chapters cover almost all relevant aspects of modern pediatric epilepsy surgery. The *Introduction* provides an excellent avenue for the subsequent chapters on invasive and noninvasive epilepsy diagnostics, including a very detailed and elaborate section on structural and functional imaging of the brain. This includes, e.g., chapters on magneto-encephalography and image co-registration. The subdivision of the first section on *Preoperative Assessment* in electrophysiology, neuroimaging, neuropsychological, and cognitive assessment, respectively, is very logical and useful. What I do not understand, however, is the fact that two chapters—one on the selection of surgical candidates and another one on the surgery of congenital lesions—had been separated from all other sections of the book. They are squeezed between the Introduction and the section on Preoperative assessment instead of having them integrated in other sections, where they would have fitted in better, in my opinion. It is here, where I also had appreciated to find a dedicated chapter concerning the pathology of childhood epilepsy—at least as related to surgically treatable epilepsy, including, i.e., information and images on malformational cortical development and others. In the section on *Surgical approaches and techniques*, there are wonderful chapters on surgical resection techniques, which are illustrated in a very explanatory manner, e.g., the chapter on Surgical Management of Lesional Temporal Lobe Epilepsy, by Cataltepe and Cosgrove or the one on Extratemporal Resection by Anderer, Bower, and Weiner, which highlights, i.e., the importance of subdural recordings in these frequently delicate cases. There are various chapters on various different techniques for hemispherotomy and hemispherectomy. From my own experience, I am well aware that this is a procedure, which requires very good anatomical understanding, as one is entering the brain tissue in all three dimensions and at different angles, making it very difficult for the novice to understand the precise sequence of surgical steps. Given the fact, however, that almost two thirds of resective epilepsy surgical procedures concern the temporal lobe alone, I would have expected to receive more surgical–anatomical information concerning this particular region. It would have been conceivable to have chapters on the fibrous and functional anatomy of the temporal lobe as related to the various types of global or selective approaches to the temporal lobe, e.g., there is a strong chapter on transsylvian selective amygdalohippocampectomy—but what about other approaches to the mesial temporal lobe? What is also missing in my opinion, in the section on surgical approaches, concerns a more elaborate and practical description on (frontal) lobectomy, as these patients are not only notoriously difficult to evaluate—frontal lobectomy is also a very demanding procedure. For example, this could have included information on the functional aspects of the supplementary motor area and how one has to deal with this particular region. There are dedicated chapters on disconnective and palliative procedures, such as corpus callosotomy, multiple subpial transection, and even isolated hippocampal transection, the latter of which is guided by

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intraoperative electrocorticography. The chapter on vagal nerve stimulation precedes the one on deep brain stimulation, thereby pointing to the potential future role of neuromodulation in the treatment of pharmaco-resistent epilepsy—with increasing understanding of neuronal circuits and more precise spatio-temporal allocation of epileptogenic activity. The section on Surgical Approaches and Techniques ends with a chapter on Radiosurgery. This is without doubt the method of choice for the treatment of gelastic epilepsy due to hypothalamic hamartomas. A small chapter on Endoscopic Techniques would have integrated well here, as this remains a valid alternative in order to approach the subgroup of exophytic hamartomas, the least. The three chapters of the section on *Outcome* is very meaningful and thoughtful, as it takes into account the failures and the various conflicting questions arising from surgical results as well, which relate to neuropsychological outcome, social aspects, and quality of life. The book concludes with three chapters on *Recent Advances*, which elaborate, e.g., on modern high-end (combined) electrophysiological and imaging techniques in epilepsy diagnostics. Here, it becomes clearly visible that epilepsy surgery is a fascinating field at the dynamic crossroads between basic neurophysiology, imaging, and information technology, which stipulates interesting and clinically relevant research projects.

All in all, this is an almost comprehensive book on the surgical treatment of childhood epilepsy. It will serve me as a reference in this field, and I am sure that many colleagues with an interest in epilepsy surgery should and will add it to their libraries. There are some minor dysbalances in the weighing of particular topics as compared to others—but I would attribute this to the difficulty of editing such a multi-author book with so many subjects to cover.

Conflicts of interest None.